

IN THE CLAIMS

The following claim listing replaces all prior listings and versions of the claims:

A Complete Listing of the Claims:

1. (Currently amended) A die, comprising:

a die body ~~having~~ including a die hole for punching a work, the die body being configured to be inserted into a die mounting hole; and

a core provided in the die body ~~and having~~, the core comprising a discharge hole which is in communication with the die hole, wherein

the core is provided with a plurality of fluid injection ports for obliquely injecting fluid downward of the discharge hole, and

the die body is provided with an inflow port through which compressed fluid flows into the fluid injection port.

2. (Currently amended) The die according to claim 1, wherein

the core ~~is made of~~ comprises a resin, and

the discharge hole is tapered toward its upper side.

3. (Original) The die according to claim 1, wherein

an outer peripheral surface of the die body is formed with a peripheral groove which is in communication with the inflow port.

4. (Currently amended) A die apparatus, comprising:

a die body ~~having~~ comprising a die hole for punching a work; and

a die holder formed with a die mounting hole for detachably holding the die body, wherein the die body is provided with a negative pressure generator which ~~downwardly~~ draws a punching punched out by the die hole,

the die body is provided with an inflow port through which compressed fluid flows into the negative pressure generator,

the die mounting hole is provided with a seal member at an upper portion and a lower portion which prevents the compressed fluid from leaking, and

the die holder is provided with a fluid supply hole through which the compressed fluid is supplied to the inflow port.

5. (Canceled)

6. (Currently amended) A die, comprising:

a die body provided at its an upper portion with a die hole;

a discharge hole formed in the die body, the discharge hole comprising and having a diameter larger than ~~that~~ a diameter of the die hole; and

~~a hole-forming tool engaging section formed on an outer peripheral surface of the die body,~~
wherein

~~the hole-forming tool engaging section is formed with an inclined air injection hole for injecting air downward of the discharge hole.~~

an inclined surface formed at an outer peripheral surface of the die body; and

an inclined air injection hole, wherein an upper end of the inclined air injection hole opens in the inclined surface and a lower end of the inclined air injection hole opens into a lower portion of the discharge hole so as to inject air downwardly in the discharge hole,

wherein the inclined air injection hole is inclined so that an axis of the inclined air injection hole intersects the inclined surface at substantially a right angle.

7. (Currently amended) The die according to claim 6, ~~wherein~~ further comprising:

~~the hole-forming tool engaging section is a portion of a peripheral groove formed in an outer peripheral surface of the die body.~~

8. (Currently amended) The die according to claim 6, wherein

~~the hole-forming tool engaging section is an~~ inclined surface is formed on an outer peripheral surface of the die body by countersinking processing working.

9. (Currently amended) A die, comprising:

a die body provided at its an upper portion with a die hole; and

a discharge hole formed in the die body, the discharge hole comprising and having a diameter larger than ~~that~~ a diameter of the die hole, wherein

the die body is formed with a through hole which is in communication with the discharge hole and an outer piece is fitted into the through hole, and

the outer piece is formed with an inclined air injection hole for injecting air ~~downward~~ downwardly of the discharge hole.

10. (Currently amended) A die, comprising:

a die body provided at its an upper portion with a die hole; and

a discharge hole formed in the die body, the discharge hole comprising and having a diameter larger than ~~that~~ a diameter of the die hole, wherein

an inner peripheral surface of the die body is provided with a hole-forming tool engaging section, and

the hole-forming tool engaging section is formed with an inclined air injection hole for injecting air ~~downward~~ downwardly of the discharge hole.

11. (Original) The die according to claim 10, wherein

the hole-forming tool engaging section is a portion of an inner peripheral groove formed in an inner peripheral surface of the die body, or a countersunk portion, or a tapered surface.

12. (Original) The die according to claim 10, wherein

the air injection hole is connected to a communication hole formed from an outer peripheral surface of the die body.

13. (Currently amended) A die, comprising:

a die body provided at its an upper portion with a die hole for punching a work, a lower portion of the die body being formed with a discharge hole which is in communication with the die hole, the die body being configured to be inserted into a die mounting hole;

an annular peripheral groove provided around an outer periphery of the die body; and

a plurality of fluid injection ports provided in the die body, the fluid injection ports being inclined to obliquely inject fluid ~~downward~~ downwardly of the discharge hole, wherein

each of the fluid injection ports is comprises a conduit which passes through the peripheral groove to the discharge hole, ~~and~~

a cross-sectional area of the fluid injection port is ~~set~~ smaller than ~~that~~ a cross-sectional area of the annular peripheral groove, and

the die mounting hole being provided with a seal member at its upper portion and its lower portion that prevents the fluid from leaking.

14. (Currently amended) A die apparatus, comprising:

a die body provided at its an upper portion with a die hole for punching a work, a lower portion of the die body being formed with a discharge hole which is in communication with the die hole;

a die holder formed with a die mounting hole for detachably holding the die body;

a fluid supply hole formed in the die holder for supplying compressed fluid toward the die body; and

a plurality of fluid injection ports provided in the die body, the fluid injection ports obliquely injecting compressed fluid supplied from the fluid supply hole ~~downward~~ downwardly of the discharge hole, wherein

a cross-sectional area of the fluid injection port is ~~set~~ smaller than ~~that~~ a cross-sectional area of the fluid supply hole formed in the die holder, and

the die mounting hole being provided with a seal member at its upper portion and its lower portion that prevents the compressed fluid from leaking.

15. (Currently amended) A die, comprising:

a die body ~~having~~ including a die hole for punching a work, the die body being configured to be inserted into a die mounting hole; and

a core provided in the die body, the core comprising ~~and having~~ a discharge hole which is in communication with the die hole, wherein

the core is provided with a plurality of fluid injection ports for obliquely injecting fluid ~~downward~~ downwardly of the discharge hole,

the die body is provided with an inflow port through which compressed fluid flows into the fluid injection port, ~~and~~

a cross-sectional area of the fluid injection port is ~~set smaller than that~~ a cross-sectional area of the inflow port provided in the die body, and

the die mounting hole being provided with a seal member at its upper portion and its lower portion that prevents the compressed fluid from leaking.

16. (Currently amended) A die, comprising:

a die body provided at ~~its~~ an upper portion with a die hole for punching a work, a lower portion of the die body being formed with a discharge hole which is in communication with the die hole, the die body being configured to be inserted into a die mounting hole; and

a plurality of fluid injection ports provided in the die body, the plurality of fluid injection ~~ports~~ ~~port~~ inclining to obliquely inject compressed fluid supplied toward the die body downward of the discharge hole, wherein

a cross-sectional area of the fluid injection port is ~~set smaller than that~~ a cross-sectional area of a fluid supply port, and

the die mounting hole being provided with a seal member at its upper portion and its lower portion that prevents the compressed fluid from leaking.

17. (Currently amended) A die, comprising:

a die body provided at its an upper portion with a die hole for punching a work, a lower portion of the die body being formed with a discharge hole which is in communication with the die hole, the die body being configured to be inserted into a die mounting hole; and

a plurality of fluid injection ports provided in the die body, the plurality of fluid injection ports being inclined ~~port inclining~~ to obliquely inject compressed fluid supplied toward the die body ~~downward~~ downwardly of the discharge hole, wherein

~~in order to supply the compressed fluid toward the die body,~~ a cross-sectional area of the fluid injection port is ~~set~~ smaller than ~~that~~ a cross-sectional area of a fluid supply port formed in the die holder which detachably holds the die body, in order to supply the compressed fluid toward the die body, and

the die mounting hole being provided with a seal member at its upper portion and its lower portion that prevents the compressed fluid from leaking.